

DORYPHORIBIUS KOREANUS, A NEW SPECIES OF TARDIGRADA FROM KOREA

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Abstract.—*Doryphoribius koreanus*, a new tardigrade species collected from terrestrial mosses and freshwater habitats in Korea, is described. The present new species mainly differs from the other species of the genus *Doryphoribius* in the following characteristics: smooth cuticle, two macroplacoids, presence of lunules only in the internal or anterior claws of legs, and very reduced buccal armature.

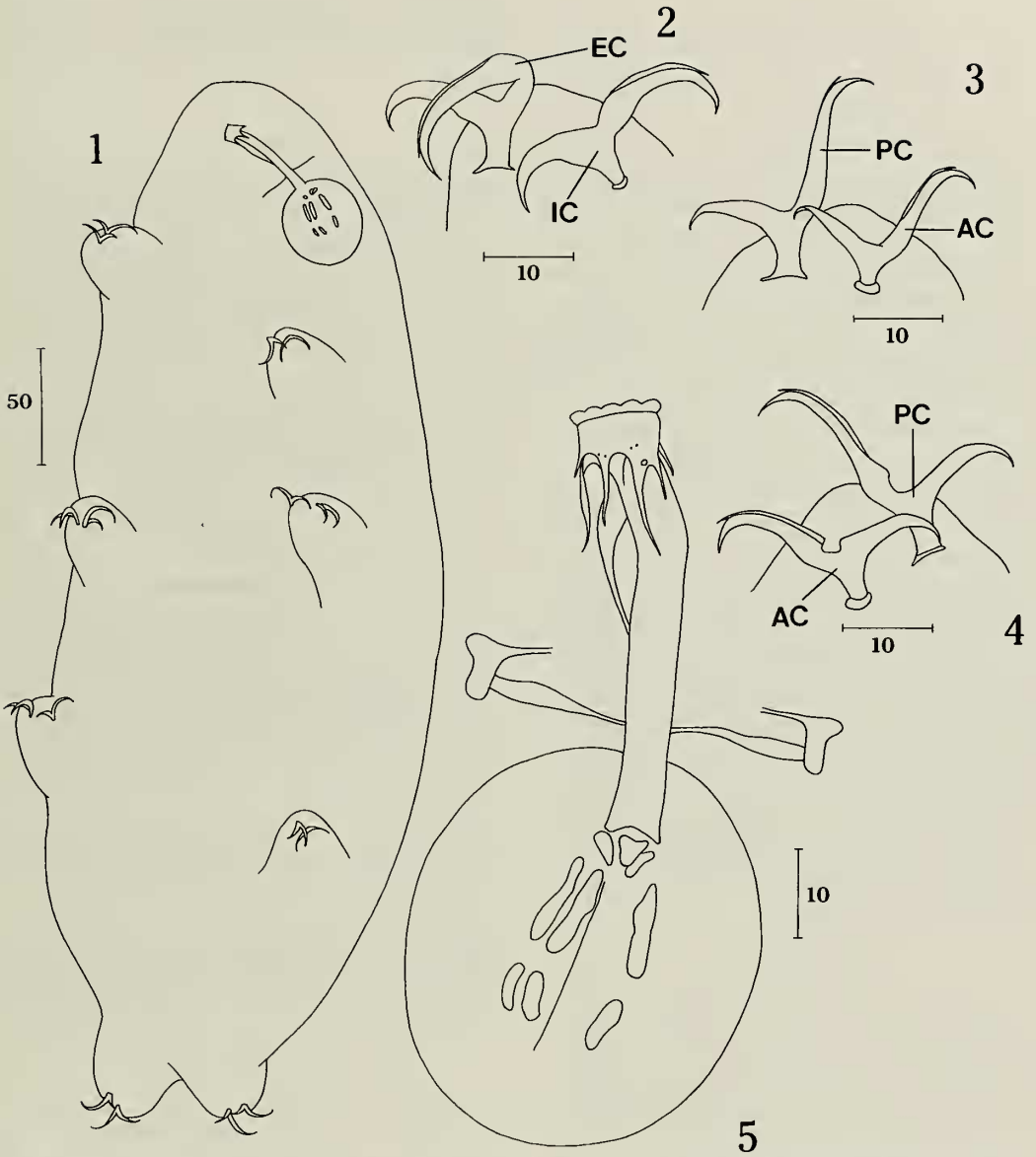
Since the genus *Doryphoribius* in the Eutardigrada was established (Pilato 1969), eleven species have been reported (Pilato 1971, Binda et al. 1980, Bertolani 1983, Ramazzotti & Maucci 1983, Beasley & Pilato 1987, Biserov 1988, Pilato & Binda 1990). A new species of *Doryphoribius* was identified during an investigation of the tardigrades collected from terrestrial mosses and benthic samples from freshwater habitats in Korea. The specimens were mounted on a microscope slide with Hoyer's medium. Examination and drawings were made with a phase-contrast compound microscope. The holotype and two paratypes are deposited in the Moon collection, Department of Molecular Biology, Seoul National University, Korea. One paratype is deposited in the National Museum of Natural History (USNM), Smithsonian Institution, Washington, D.C., U.S.A., and the other paratype in the Bertolani collection, Department of Animal Biology, University of Modena, Italy.

Doryphoribius koreanus, new species
Figs. 1-5

Material examined.—Holotype-Myöngam reservoir, Ch'öngju, Kyönggi-do, collected by Cheon Y. Chang, 8 Oct 1986; four paratypes-three specimens, Pömö temple (moss), Yangsan, Kyöngsangnam-do, col-

lected by Seung Y. Moon, 25 May 1986; one specimen (USNM 259663), Sögwip'ö (pond), Chejudo, collected by Cheon Y. Chang, 23 Apr 1987.

Description.—Holotype. Body (Fig. 1) yellowish, with length 456 μm . Eye spots absent (or not preserved) in holotype but present in paratypes. Cuticle smooth. Mouth subterminal, positioned rather anteroventrally. Buccal armature (Fig. 5) almost not existent, consisting of few posterior teeth, 2-4 minute ventral teeth, and single slightly larger dorso-medial tooth. Peribuccal lamellae absent. Buccal tube (Fig. 5) moderately wide (internal diameter 5 μm), rigid, but slightly curved dorsally and anteriorly; ventral lamina of buccal tube present. Pharyngeal bulb (Fig. 5) round (length: width, about 1.2:1), containing well-developed apophyses and two rod-like macroplacoids; first macroplacoid with slight median constriction 10.1 μm long, about 1.7 times as long as second macroplacoid (6.0 μm long); macroplacoids arranged in somewhat arcuate line; microplacoid absent. Double claws (Figs. 2-4) clearly of *Isohypsibius* type, moderately large, similar in size and shape on the same leg and on the first three pairs of legs; on the fourth pair of legs, anterior double claw similar in length to internal ones of other pairs, whereas posterior double claw somewhat longer than anterior one of same leg and external claws of other pairs; main



Figs. 1-5. *Doryphoribius koreanus*, new species, holotype. 1, whole animal, ventro-lateral view; 2, claws of third pair of legs (EC, external claw; IC, internal claw); 3 & 4, claws of fourth pair of legs (PC, posterior claw; AC, anterior claw); 5, buccopharyngeal apparatus. Scales in μm .

branch of double claw with 2 minute accessory points; basal branch of external (posterior) double claw moderately long and rather robust, with its basal end expanded laterally; basal branch of internal (anterior) double claw somewhat shorter than that of external double claw, without basal ex-

panding; lunules of internal double claws more distinct on claws of fourth pair of legs; lunules absent on external double claws.

Etymology.—The specific name is based on Korea, the type locality of the new species.

Remarks.—The present new species dif-

fers from seven [*Doryphoribius bertolanii* Beasley & Pilato, 1987; *D. flavus* (Iharos 1966); *D. gibber* Beasley & Pilato, 1987; *D. mariae* Pilato & Binda, 1990; *D. polynettae* Biserov, 1988; *D. zappalai* Pilato, 1971; *D. zyxiglobus* (Horning, Schuster, & Grigarick, 1978)] of the eleven previously described species by its smooth cuticle and/or by the number of macroplacoids. The other species with a smooth cuticle and two macroplacoids are *D. doryphorus* (Binda & Pilato 1969), *D. evelinae* (Marcus 1928), *D. macrodon* Binda, Pilato, & Dastych, 1980, and *D. pilatoi* Bertolani, 1983. The present new species, *D. koreanus*, differs from *D. doryphorus* by having the external claws with laterally expanded basal end, the internal claws surrounded by a lunule, and a wider buccal tube. It differs from *D. evelinae* by the presence of longer claws and the absence of tubercles on the legs. It differs from *D. macrodon* by the presence of lunules around the basal ends of the internal (anterior) claws and by the very reduced buccal armature. Lastly, it differs from *D. pilatoi* which has reduced claws on the fourth pair of legs.

The present new species is found both in terrestrial and aquatic habitats as well as *D. evelinae* and *D. zappalai*.

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